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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,510	06/05/2001	Hung-Kun Chen	46914-2000	5897
23900	7590	05/03/2005	EXAMINER	
J C PATENTS, INC.			DEPPE, BETSY LEE	
4 VENTURE, SUITE 250			ART UNIT	PAPER NUMBER
IRVINE, CA 92618			2637	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/874,510

Applicant(s)

CHEN ET AL.

Examiner

Betsy L. Deppe

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,19-28,30-37,42-46,50-53 and 58 is/are allowed.
- 6) ☒ Claim(s) 2-18,29,38-41,47-49,54-57 and 59-62 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/5/01</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the partition mapper having an input from the original/mapped sequence selector as recited in claim 59, lines 14-15 must be shown in Figure 3 or the feature(s) canceled from the claim(s). In Figure 3, partition mapper 313 does not receive a signal from original/mapped sequence selector 316. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it includes claims language, e.g. "comprises" and "said." Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities:

on page 4, line 13, "available" is misspelled;

on page 9, line 8, the period at the end of the line should be deleted; and

on page 31, line 11, one of the periods after "request 701" should be deleted.

Appropriate correction is required.

***Claim Objections***

5. The claims are objected to because:
- a. In claim 2, line 2, "the number" should be "a number";
  - b. In claim 2, line 3, the two occurrences of "the" should be "a";
  - c. In claim 2, line 5, "said first predetermined" should be "a first predetermined";
  - d. In claim 3, line 2, "said distribution" should be "said **predetermined** distribution" (see claim 1, line 7-8);
  - e. in claim 4, lines 2 and 3, the Examiner suggests changing "defining" to "assigning";
  - f. In claim 7, line 2, "said residue MAUs being distributed" should be "distributing said residue MAUs" for improved readability;
  - g. In claim 7, line 3, "framesMAUs" should be "frames MAUs";
  - h. In claim 10, line 3, "a first predetermined threshold" should be "**said** first predetermined threshold" (see claim 2, line 5);
  - i. In claim 10, lines 3-5, "the received signal packet is designated . . . first predetermined threshold" duplicates claim 2, lines 4-5. The Examiner suggests deleting "the received signal packet. . . threshold, and" on lines 3-5.;
  - j. In claim 15, line 2, "packer" should be "packet";
  - k. In claim 16, line 5, the comma should be deleted;
  - l. In claim 17, line 10, "selectedchannels" should be "selected channels";

- m. In claims 22 and 23, one of the two periods at the end of line 3 of the respective claims should be deleted.
- n. In claim 24, line 7, the Examiner suggests changing "being" to "wherein the modulus value is";
- o. In claim 24, line 11, the Examiner suggests changing "table to be look up" to "the selected table";
- p. In claim 28, line 2, "said traffic management" should be "said step of managing" in order to be consistent with claim 27, lines 1-2;
- q. In claim 29, line 4, the first two occurrences of "the" should be "a";
- r. In claim 29, line 7, "having" should be "if it has an" for improved readability;
- s. In claim 29, lines 8-10, "the" should be "a";
- t. In claim 29, line 11, "said first" should be "a first";
- u. In claim 29, line 15, the hyphen should be deleted;
- v. In claim 37, line 2, "the number" should be "a number";
- w. In claim 37, line 3, the two occurrences of "the" should be "a";
- x. In claim 37, line 5, "said first predetermined" should be "a first predetermined";
- y. In claim 38, line 3, "said distribution" should be "said **predetermined** distribution" (see claim 36, lines 9-10);

- z. In claim 42, lines 3-4, "the received signal packet is designated . . . first predetermined threshold" duplicates claim 2, lines 4-5. The Examiner suggests deleting "the received signal packet. . . threshold, and" on lines 3-4.;
- aa. In claim 42, line 6, the comma should be deleted;
- bb. In claim 47, lines 7 and 8, "received packet of signals" should be "received **signal** packet";
- cc. In claim 47, line 8, "said second" should be "**a** second";
- dd. In claim 50, line 2, "a step of" should be "a means for";
- ee. In claim 53, line 4, the two occurrences of "the" should be "a";
- ff. In claim 53, line 5, "the number" should be "a number";
- gg. In claim 53, line 7, "having" should be "if it has an" for improved readability;
- hh. In claim 59, line 8, "a" should be inserted before "partition";
- ii. In claim 59, line 15, "an" should be "said"; and
- jj. In claim 59, line 31, "so as to be" should be "which are" for improved readability.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 2-18, 29, 38-41, 47-49, 54-57, 59-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. In claim 2, lines 2-4 and claim 29, lines 8-10, it is unclear how the number of unknown events relates to the definition of the interference collision ratio. For example, is the number of unknown events subtracted from a number of selected received signal packets before the division step or is it subtracted after the dividing. As dependent claims of claim 2, claims 3-18 are rejected on the same grounds.

9. With regard to claims 3-8 and 38-41, "MAU" is not defined in claims 3 and 38, respectively.

10. Claim 15 recites the limitation "the step of determining interference in a received packer [sic]" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

11. With regard to claim 16, it is unclear how the recited steps relate to the steps in claim 10 since claim 10 does not include step (15.2). (See claim 16, line 1)

12. In claim 16, the interference collision ratio on lines 6-8 is inconsistent with the interference collision ratio in step (2.1) of claim 2. Based on the conflicting definitions, it is unclear how the interference collision ratio is calculated.

13. In claim 17, "said plurality of selected channels" on line 10 is inconsistent with "selecting at least one channel" on line 5. "One" on line 5 should be "two" in order to be consistent with "plurality" on line 10.



14. In claim 17, it is unclear whether “said channel” on line 11 is referring to an available channel or a selected channel.

15. Claims 30 and 54 recite the limitation “said synchronous traffic management reservation slot time slot status” in lines 5 and 4-5, respectively. There is insufficient antecedent basis for this limitation in the respective claims. It is also unclear what is meant by “reservation slot time slot status.”

16. Claim 33 recites the limitation “the time slot” and “said good channels” in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

17. Claim 34 recites the limitations “the time slot” and “said good channels” on line 3. There is insufficient antecedent basis for these limitations in the claim.

18. With regard to claims 38-41, in claim 38, it appears that both the dividing means (see lines 8-9) and the determining means (see lines 10-11) determines the number of MAUs for each of the partitions. It is unclear how the designated number by the dividing means differs from the determined number by the determining means.

19. With regard to claims 47-49, it is unclear the error determining means in claim 47 interfaces with the one in claim 42. Is “error determining means” on line 1 the same as the one in claim 42, line 2? If so, how is a signal designated an “interference event” or “interference-free event” based on the conditions recited in claim 42 and claim 47? In claim 47, line 1, either “an” or “the” should be inserted before “error”.

20. In claim 48, the “interference collision ratio” on lines 6-8 is inconsistent with the one in claim 37.

21. With regard to claims 55-57, the asynchronous traffic management in claim 55, line 2 contradicts the synchronous traffic management in claim 52, line 2.
22. Claim 57 recites the limitations "the time slot" and "said good channels" on line 3. There is insufficient antecedent basis for these limitations in the claim.
23. In claim 59, it is unclear whether "a partition sequence" on line 11 is referring to the same "partition sequence" on line 8. Furthermore, it is unclear whether "a hopping sequence" on line 23 is the same as that on line 13. As dependent claims, claims 60-62 are rejected on the same grounds.

***Claim Rejections - 35 USC § 102***

24. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

25. Claims 59-62 rejected under 35 U.S.C. 102(a) as being clearly anticipated by Kwang-Cheng Chen et al. ("Selective Hopping for Hit Avoidance," IEEE P802.15 Working Group Contribution, IEEE 802.15-01/057r2, March 10, 2001, cited in the IDS filed June 5, 2001) (See slide 14)

***Allowable Subject Matter***

26. Claims 1, 19-28, 30-37, 42-46, 50-53 and 58 are allowed.

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27. The following is an examiner's statement of reasons for allowance: prior art of record does not teach or suggests in combination a selective hopping method or system comprised of the steps in claim 1, lines 7-11 and the means in claim 36, lines 8-13, respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Souissi et al. (US Patent No. 5,809,059) teaches a frequency hopping spread spectrum system which sorts channels based on the average noise and interference levels. Andersson et al. (US Patent No. 5,937,002) and Almgren et al. (US Patent No. 6,298,081 B1) disclose systems which divide a plurality of channels into groups (i.e. partitions) based on the level of attenuation and then channel hop sequences are generated. Gerten et al. (US Patent No. 6,760,319 B1) discloses a frequency hopping system and method for avoiding interference. Nyberg et al. (US Patent No. 6,845,123 B1) discloses a frequency hopping sequence allocation method.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-

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3054. The examiner can normally be reached on Monday, Wednesday and Thursday (8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272 - 2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Betsy L. Deppe  
Primary Examiner  
Art Unit 2637